



Weather and Climate

Western Arctic Parklands Spring 2014 Weather Summary



Kotzebue Spring Weather 2014

Kotzebue had one of the warmest spring seasons on record. Kotzebue experienced a warm March, 6.7° F warmer than normal with an average temperature of 7.8° F for the month. A total of 6.8 inches of snow fell during March, which is 115% of normal. The total precipitation (water equivalent) for the month was below average at 0.34 inches; normal is 0.44 inches.

The warm temperatures persisted through April; Kotzebue had the greatest positive temperature deviation from normal statewide. The monthly average temperature was 8.7° F above the 1981-2010 normal at 22.0°F making it the 7th warmest April in station history. Three new daily temperature records were set during the month on the 22, 26, and 28th of the month. The precipitation was well below normal with a total of 0.21 inches for the month 39% of normal. Both rain and snow were recorded during the month.

May was warm and wet. May temperatures continued above average at 36.2° F for the month; the normal average temperature for May is 31.2° F. The precipitation totals for the month were above normal with 0.99 inches and precipitation was recorded on 20 of the 31 days of the month, which is 241% of normal. There was no measurable snowfall in May, making it a very low snow year, with a total of 32.2 inches of snow for the season (since July 1) versus the 52.2 inches that is expected. This is 61% of the normal annual total snowfall for Kotzebue (Figure 1; Table 1, 2, and 3).

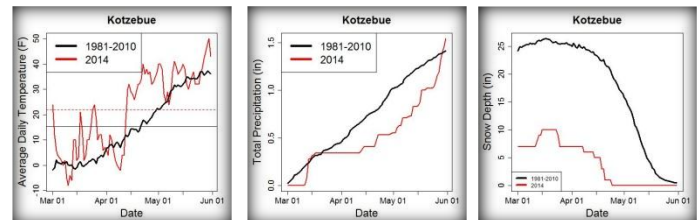


Figure 1. Average spring temperatures and precipitation accumulation in Kotzebue compared to the 1981-2010 normal.

Spring Temperature Trend

The average spring temperature for 2014 was 22.0°F, which is 6.6° F warmer than the 1981-2010 normal (the latest climate normal period) and 7.1° F warmer than the long-term average (1949-2014). We calculate the average spring temperature by simply taking the average of March, April and May monthly temperatures. See chart below to track the spring temperatures over 65 years.

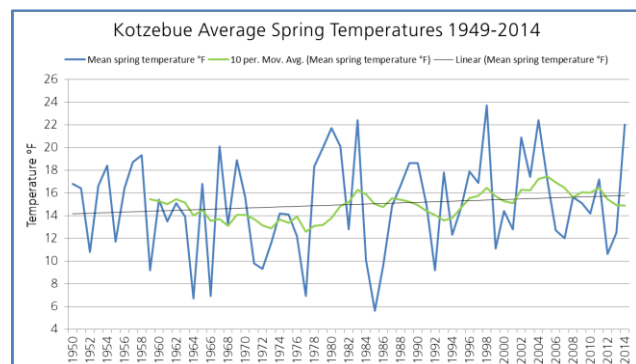


Figure 2. Average spring (March, April, May) temperatures in Kotzebue over the past 65 years.

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Table 1. Temperature: Spring 2014 average monthly temperatures compared to the 1981-2010 normal.

Spring 2014	Average Monthly Temp °F	1981-2010 Normal °F	Departure from Normal °F	Monthly High °F / Date	Monthly Low °F / Date
March	7.8	1.1	6.7	33 / Mar 25	-14 / Mar 10
April	22	13.3	8.7	45 / Apr 28	-11 / Apr 9
May	36.2	31.9	4.3	56 / May 30	19 / May 5

Spring Season Temperature Departure from Normal: +6.6°F

Table 2. Precipitation: Spring 2014 monthly precipitation totals compared to normal.

Spring 2014	Total Monthly Precip in.	1981-2010 Normal in.	Departure from Normal in.	Greatest 24 -hr total in. / Date	# Days with ≥ 0.01 in. water
March	0.34	0.44	-0.1	0.20 / Mar 13	6
April	0.21	0.54	-0.33	0.06 / Apr 22	7
May	0.99	0.41	0.58	0.16 / May 16	18

Spring Season Departure from Normal: +0.05 inches

Table 3. Snowfall : Spring 2014 monthly snowfall totals compared to normal.

Spring 2014	Total Monthly Snowfall in.	1981-2010 Normal in.	Departure from Normal in.	Greatest 24 -hr snowfall total in. / Date	Cumulative snowfall since 1-July in.
March	6.8	5.9	0.9	2.4 / Mar 13	31.8
April	0.4	5.1	-4.7	0.2 / Apr 14	32.2
May	T	1.2	-1.2	T / multiple	32.2

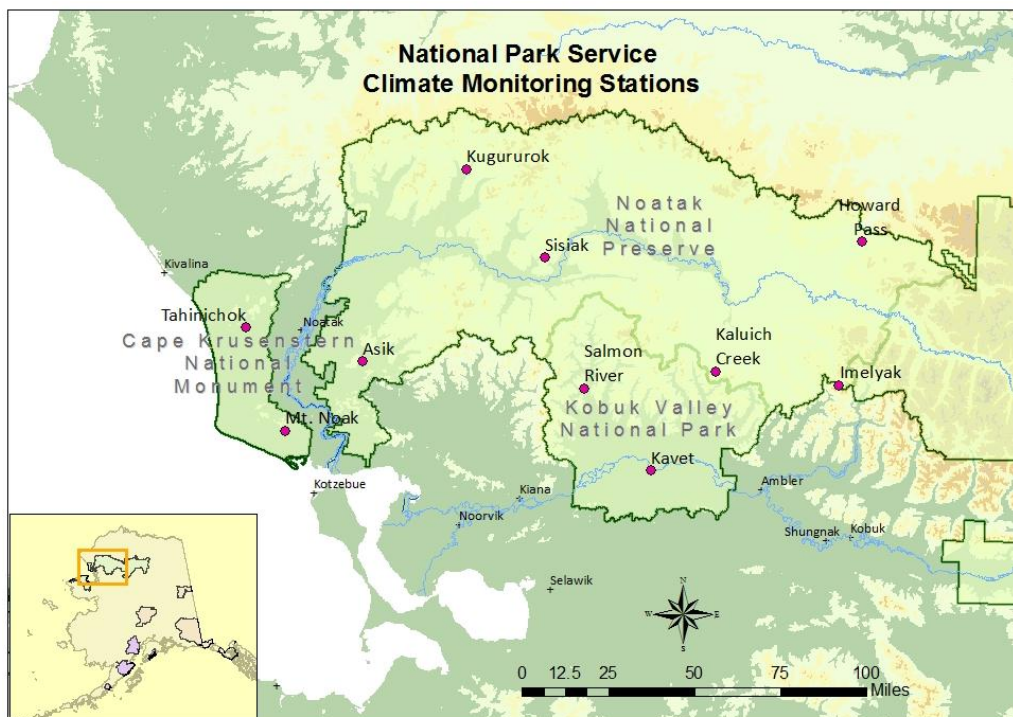


Figure 3. Climate stations in the Western Arctic Parklands.

Table 4. Summary of weather statistics for the Western Arctic climate stations. All data are preliminary and subject to review.

Site	Elev. Ft.	Average Temp ° F			Spring 2014 Avg. Temp °F	Extremes ° F		Peak Wind mph	High T- Low T °F
		Mar	Apr	May		High	Low		
Tahinichok	966	11.1	22.7	33.7	22.5	49	-9	39	58
Asik	1329	14.0	24.8	33.9	24.2	55	-9	46	64
Kelly	382	9.5	23.1	37.5	23.4	62	-13	32	75
Sisiak	1823	8.8	17.9	32.3	19.7	51	-18	41	69
Noatak	985	-2.9	12.1	35.4	14.9	60	-31	46	91
Kaluich	2486	9.1	16.9	31.6	19.2	48	-23	51	71
Imelyak	3569	14.6	19.7	29.4	21.2	46	-20	47*	66
Kavet Creek	235	11.7	25.9	41.8	26.5	63	-21	34	84

Climate Monitoring in the Western Arctic Parklands

We now have additional NPS climate stations in Cape Krusenstern, Noatak, and Kobuk Valley that complement existing National Weather Service stations at Kotzebue and along the Kobuk River to the south (Figure 3). The new NPS stations will provide critical data on high elevation sites in the Arctic and will help characterize the climate gradients and patterns affecting resources in the Western Arctic parklands.

We have added phenology cameras to some of the climate stations (Fig. 4) These cameras capture images four times per day; the images are downloaded once a year. The images are used to help quantify the snow season, green-up period, and other basic phenologic information.



Figure 4. New phenology camera mounted on the Salmon River climate station.

Connecting Further

- [New paper published](#) – Recent Sea Ice Increase and Temperature Decrease in the Bering Sea area, Alaska.
- Previous weather summaries and other climate monitoring documents on the [Arctic Network web page](#).
- Access near real-time data from [Western Regional Climate Center](#) or [Mesowest](#).
- Statewide summary of weather highlights in the latest [Alaska Climate Dispatch](#) from the Alaska Center for Climate Assessment and Policy.
- [Map](#) of projected temperature and precipitation changes for the Western Arctic Parklands.

More Information

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